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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,801	04/06/2001	Murali Rajagopalan	5222-033-RE	5361

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HANIFY & KING PROFESSIONAL CORPORATION
1055 Thomas Jefferson Street, NW
Suite 400
WASHINGTON, DC 20007

EXAMINER

CHEN, VIVIAN

ART UNIT	PAPER NUMBER
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1794

MAIL DATE	DELIVERY MODE
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02/04/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/827,801	Applicant(s) RAJAGOPALAN, MURALI	
	Examiner Vivian Chen	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2008 and 11 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-2, 5, 7/1, 8/(7/1), 9/(7/1) 10, 11/1, 11/5, 12-13, 15-16, 17/5, 18-22, 24-26 is/are allowed.
- 6) ☒ Claim(s) 3, 4, 6, 7/3, 8/(7/3), 9/(7/3), 10, 11/3, 17/3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 14, 23 have been cancelled by Applicant.

Terminal Disclaimer

2. The terminal disclaimer filed on 4/22/2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 5,962,140 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Double Patenting

3. The double patenting rejections based on U.S. Patent No. 5,962,140 in the previous Office Action mailed 10/22/2007 have been withdrawn in view of the Terminal Disclaimer filed 4/22/2008.

Claim Rejections - 35 USC § 112

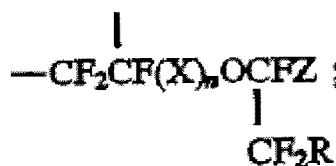
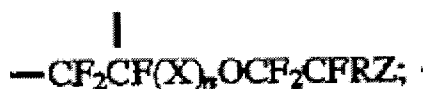
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3-4, 6, 7/3, 8/(7/3), 9/(7/3), 10, 11/3, 17/3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 3, 10 are vague and indefinite because it is unclear whether the recited three molecular units are supposed to be pendent groups hanging from a carbon backbone or terminal groups at the end of the carbon chain. The third recited molecular unit appears to be a terminal group only, while it's unclear what the vertical bond line extending upward from the first and second molecular units (see below) is supposed to connect to.



Is the vertical bond line intended to connect with another pendant moiety or group that was somehow omitted from the formula? Or is the vertical bond line intended to connect to other carbon atoms in the backbone of the fluoropolymer, with the Z-bearing unit being a pendant group extending from said carbon backbone. If the first and second molecular units are intended to represent pendent groups hanging off the carbon backbone of the polymer, then it should be made clear by using a chemical formula which more clearly represents the molecular units' relationship to the carbon backbone of the fluoropolymer (e.g., see claim 7).

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Claims 3, 9-10 are unclear and confusing because of the use of the phrase "Y=F or CF₃" which is inconsistent with the other portions of the claims which use phrases such as "X is....", etc.

Claim 6 is vague and indefinite because the chemical formula for R₈ has an extraneous "2" floating below the chemical formula.

Claim 7 is unclear and confusing because the carbon immediately below the oxygen atom has only one associated fluorine atom instead of the required two.

Claim 9 is unclear and confusing because in the last line, the claim states that "n is 0, 11, or 2". If this is not a typographical error, then the values for n should be placed in ascending order.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3, 4, 11/3, 17/3 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) MORGAN ET AL (US 5,397,829), or

(b) CHAPMAN, JR ET AL (US 5,547,761).

MORGAN ET AL discloses a copolymer comprising tetrafluoroethylene (TFE) and a perfluorovinyl ether, wherein the perfluorovinyl ether ends with a -COOH functional group,

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wherein the incorporation of the disclosed perfluorovinyl ether units result in a fluoropolymer with molecular units corresponding to the first molecular unit as recited in claim 3. The copolymer is suitable for coating golf balls and golf ball cover layers. The coating comprises the fluoropolymer alone, or optionally contains up to 10 wt% other components. (line 10-25, col. 5; line 10-25, col. 8; line 57-64, col. 12; line 3-13, col. 13) (see corresponding portions of CHAPMAN, JR ET AL)

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the copolymer containing a functionalized fluorovinyl ether as a coating and/or cover layer material for golf balls in order to provide a durable protective coating. One of ordinary skill in the art would have incorporated minor amounts of known performance enhancing additives such as non-fluorinated thermoplastic resins (claim 17/3) in order to modify various physical properties (e.g., hardness, color, surface texture, impact resistance, chemical resistance, printability, adhesion, etc.) in order to meet the performance requirements of specific applications.

Response to Arguments

6. Applicant's arguments filed 4/22/2008 have been fully considered but they are not persuasive.

(A) Applicant argues that MORGAN ET AL and CHAPMAN, Jr. ET AL fail to disclose fluoropolymers with the recited molecular units. However, the fluorovinyl ethers disclosed in the references appears to produce molecular units corresponding to the first molecular unit recited in claim 3 -- e.g., $\text{CF}_2=\text{CF}_2\text{OCF}_2\text{CF}(\text{CF}_3)\text{O}(\text{CF}_2)_2\text{COOH}$, where $n=1$, $X=\text{OCF}_2\text{CFY}$ or

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OCFYCF₂ with Y=CF₃, etc. The references further teach that the disclosed fluoropolymers (including those with functionalized fluorovinyl ether units) are suitable for use in coating golf balls. Applicant has not provided probative evidence of criticality or unexpected results commensurate in scope with the present claims.

(C) In response to applicant's argument that MORGAN ET AL and CHAPMAN, Jr. ET AL fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a terpolymer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The present claim 3 does not require the presence of 3 distinct polymeric units, because it appears that the polymeric unit containing R₈ can be effectively identical as the first molecular unit recited in claim 3. Therefore, a polymeric unit satisfying the requirement of the R₈-containing polymer unit would appear to also satisfy the requirement of the recited first molecular unit.

Allowable Subject Matter

7. Claims 1-2, 5, 7/1, 8/(7/1), 9/(7/1) 10, 11/1, 11/5, 12-13, 15-16, 17/5, 18-22, 24-26 are allowed over the prior art of record.

8. Claim 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to disclose a golf ball wherein: (a) the cover layer of the golf ball comprises the recited functionalized fluoropolymer (claim 1); (b) both at least one coating layer and the cover layer of the golf ball comprises the recited functionalized fluoropolymer (claim 5); (c) the cover layer of the golf ball comprises the recited functionalized fluoropolymer terpolymer (claim 6); (d) a method utilizes the recited functionalized terpolymer fluoropolymer to form the cover layer of golf ball (claim 18); (e) a method utilizes the recited functionalized terpolymer fluoropolymer terpolymer to form the cover layer of golf ball (claim 22); (f) the cover layer of the golf ball is covered with a coating comprising the recited functionalized fluoropolymer terpolymer (claim 25); (g) both at least one coating layer and the cover layer of the golf ball comprises the recited functionalized fluoropolymer terpolymer (claim 26). MORGAN ET AL and CHAPMAN, Jr. ET AL fail to disclose golf balls wherein the recited functional fluoropolymer forms a cover layer which is a structural element of the ball (as distinguished from a surface coating) or the use of the recited functionalized fluoropolymer terpolymers.

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Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho, can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

January 25, 2010

/Vivian Chen/

Primary Examiner, Art Unit 1794